

## Semaphorin-4D/SEMA4D Protein, Mouse (HEK293, mFc)

<b>Cat. No.:</b>	HY-P700429
<b>Synonyms:</b>	Semaphorin-4D; CD100; SEMA4D; C9orf164; FLJ33485; FLJ34282; FLJ39737; FLJ46484; M-sema-G; MGC169138; MGC169141; SEMAJ; coll-4
<b>Species:</b>	Mouse
<b>Source:</b>	HEK293
<b>Accession:</b>	O09126 (F24-R733)
<b>Gene ID:</b>	20354
<b>Molecular Weight:</b>	108.1 kDa

### PROPERTIES

#### AA Sequence

F A P V P R L T W E	H G E V G L V Q F H	K P G I F N Y S A L	L M S E D K D T L Y
V G A R E A V F A V	N A L N I S E K Q H	E V Y W K V S E D K	K S K C A E K G K S
K Q T E C L N Y I R	V L Q P L S S T S L	Y V C G T N A F Q P	T C D H L N L T S F
K F L G K S E D G K	G R C P F D P A H S	Y T S V M V G G E L	Y S G T S Y N F L G
S E P I I S R N S S	H S P L R T E Y A I	P W L N E P S F V F	A D V I Q K S P D G
P E G E D D K V Y F	F F T E V S V E Y E	F V F K L M I P R V	A R V C K G D Q G G
L R T L Q K K W T S	F L K A R L I C S K	P D S G L V F N I L	Q D V F V L R A P G
L K E P V F Y A V F	T P Q L N N V G L S	A V C A Y T L A T V	E A V F S R G K Y M
Q S A T V E Q S H T	K W V R Y N G P V P	T P R P G A C I D S	E A R A A N Y T S S
L N L P D K T L Q F	V K D H P L M D D S	V T P I D N R P K L	I K K D V N Y T Q I
V V D R T Q A L D G	T F Y D V M F I S T	D R G A L H K A V I	L T K E V H V I E E
T Q L F R D S E P V	L T L L L S S K K G	R K F V Y A G S N S	G V V Q A P L A F C
E K H G S C E D C V	L A R D P Y C A W S	P A I K A C V T L H	Q E E A S S R G W I
Q D M S G D T S S C	L D K S K E S F N Q	H F F K H G G T A E	L K C F Q K S N L A
R V V W K F Q N G E	L K A A S P K Y G F	V G R K H L L I F N	L S D G D S G V Y Q
C L S E E R V R N K	T V S Q L L A K H V	L E V K M V P R T P	P S P T S E D A Q T
E G S K I T S K M P	V A S T Q G S S P P	T P A L W A T S P R	A A T L P P K S S S
G T S C E P K M V I	N T V P Q L H S E K	T V Y L K S S D N R	

**Appearance** Lyophilized powder.

**Formulation** Lyophilized from a 0.2 µm filtered solution of PBS, 6% Trehalose, pH 7.4.

**Endotoxin Level** <1 EU/µg, determined by LAL method.

**Reconstitution** It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH<sub>2</sub>O.

**Storage & Stability** Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.

**Shipping** Room temperature in continental US; may vary elsewhere.

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## DESCRIPTION

### Background

Semaphorin-4D (SEMA4D) operates as a cell surface receptor for PLXNB1 and PLXNB2, assuming a crucial role in cell-cell signaling. This versatile protein is implicated in diverse cellular processes, including the regulation of GABAergic synapse development, where it fosters the development of inhibitory synapses in a PLXNB1-dependent manner. In hippocampal neurons, SEMA4D influences the complexity and arborization of developing neurites by activating PLXNB1, thereby mediating RHOA activation. Additionally, SEMA4D is involved in promoting the migration of cerebellar granule cells and induces B-cell aggregation, enhancing their viability in vitro. Furthermore, SEMA4D stimulates endothelial cell migration through the activation of PTK2B/PYK2, SRC, and the phosphatidylinositol 3-kinase-AKT pathway. Operating as a homodimer, SEMA4D interacts with both PLXNB1 and PLXNB2, underscoring its intricate involvement in various cellular and developmental processes.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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